

Appln. No. 09/491,110  
Amendment dated November 24, 2005  
Reply to Office Action mailed August 25, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims** (deleted text being struck through and added text being underlined):

30. (Previously Presented) A computerized system comprising:  
a computer having at least a processor and a memory; and,  
a mouse pointing device positionable over a surface having a plurality of uniquely coded positions arranged in a gradient substantially covering the surface, the device sensing the coding of the uniquely coded position underneath the mouse and conveying to the computer information relative to the uniquely coded position underneath the mouse.

31. (Previously Presented) A mouse pointing device comprising a mechanism movable over a surface, the surface having a plurality of uniquely coded positions arranged in a gradient, the mechanism adapted to detect the uniquely coded position underneath the mechanism and to transmit information relative to the uniquely coded position.

32. (Previously Presented) A joystick pointing device comprising:  
a movable control stick;  
a first gradient having a plurality of positions uniquely varying in intensity level of a first color, the first gradient operatively coupled to the control stick such that movement of the control stick on a first axis causes corresponding movement of the first gradient;  
a fixed first sensor positioned over the first gradient to detect the intensity level of the position underneath the first sensor;  
a second gradient having a plurality of positions uniquely varying in intensity level of a second color, the second gradient operatively coupled to the control stick such that movement of the control stick on a second axis causes corresponding movement of the second gradient;

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a fixed second sensor positioned over the second gradient to detect the intensity level of the position underneath the second sensor, and:

whereby the intensity level detected by the first sensor and the intensity level detected by the second sensor relate to a unique position of the control stick and such control stick position information is communicated.

33. (Previously Presented) The joystick pointing device of claim 32, further comprising: a fixed first light source positioned over the first gradient to illuminate the position underneath the first sensor; and,

a fixed second light source positioned over the second gradient to illuminate the position underneath the second sensor.

34. (Previously Presented) A joystick pointing device comprising:  
a movable control stick;

a semispherical dome mounted axially to an end of the movable control stick, such that a bottom surface of the dome is convex and has a gradient having a plurality of positions uniquely varying in intensity level of a first color on a first axis and uniquely varying in intensity level of a second color on a second axis;

a first sensor positioned under the bottom surface of the dome to detect the intensity level of the first color of the position above the first sensor;

a second sensor positioned over the bottom surface of the dome to detect the intensity level of the second color of the position above the second sensor; and

whereby the intensity level detected by the first sensor and the intensity level detected by the second sensor relate to a unique position of the control stick and such control stick position information is communicated.

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35. (Previously Presented) The joystick pointing device of claim 34, further comprising a light source to illuminate the position above the first sensor and the position above the second sensor.

36. (Previously Presented) A joystick pointing device comprising: a movable control stick;

a mechanism mounted to an end of the movable control stick; and, a semispherical dome positioned underneath the mechanism, such that a top surface of

the dome is concave and has a gradient having a plurality of positions uniquely varying in intensity level of a first color on a first axis and uniquely varying in intensity level of a second color on a second axis, wherein the mechanism comprises:

a first sensor positioned above the top surface of the dome to detect the intensity

level of the first color of the position underneath the first sensor;

a second sensor positioned above the top surface of the dome to detect the

intensity level of the second color of the position underneath the second sensor; and the intensity level detected by the first sensor and the intensity level detected by the second sensor relate to a unique position of the control stick and such control stick position information is communicated.

37. (Previously Presented) The joystick pointing device of claim 36, wherein the mechanism further comprises a light source to illuminate the position underneath the first sensor and the position underneath the second sensor.

38. (Previously Presented) A computerized system comprising: a computer having at least a processor and a memory; and, a joystick including:

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a movable control stick

a semispherical dome mounted axially to an end of the movable control stick and having a gradient having a plurality of positions uniquely varying in intensity level of a first color on a first axis and uniquely varying in intensity level of a second color on a second axis,

a first sensor positioned under the bottom surface of the dome to detect the intensity level of the first color of the position above the first sensor,

a second sensor positioned over the bottom surface of the dome to detect the intensity level of the second color of the position above the second sensor; and wherein the intensity level detected by the first sensor and the intensity level detected by the second sensor relate to a unique position of the control stick and such control stick position information is communicated to the computer.

39. (Previously Presented) A pointing device comprising:

a housing; and,

a sensor disposed within the housing and positionable over a first gradient having a first color transposed over a second gradient having a second color, each gradient having a plurality of positions uniquely varying in intensity level, the sensor detecting the intensity level of the first gradient and the intensity level of the second gradient of the position underneath the sensor, whereby the detected intensity level of the first gradient and the detected intensity level of the second gradient relates to a unique position of the device and information relative to such position is communicated.

40. (Previously Presented) A pointing device comprising:

a housing;

a first sensor disposed within the housing and positionable over a first gradient having a plurality of positions uniquely varying in intensity level,

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the first gradient substantially covering a surface, the first sensor detecting the intensity level of the position underneath the first sensor; and,

a second sensor disposed within the housing and positionable over a second gradient having a plurality of positions uniquely varying in intensity level, the second gradient substantially covering the surface, the second sensor detecting the intensity level of the position underneath the second sensor, whereby the intensity level detected by the first sensor and the intensity level detected by the second sensor relates to a unique position of the device and information relative to such position is communicated.

41. (Previously Presented) The pointing device of claim 40, further comprising:

a first light source disposed within the housing to illuminate the position underneath the first sensor; and,

a second light source disposed within the housing to illuminate the position underneath the second sensor.

42. (Previously Presented) The pointing device of claim 41, wherein each of the first and second light sources comprises a light-emitting diode (LED).

43. (Previously Presented) The pointing device of claim 40, further comprising a light source disposed within the housing to illuminate the position underneath the first sensor and the position underneath the second sensor.

44. (Previously Presented) The pointing device of claim 40, wherein the first gradient is transposed over the second gradient.

45. (Previously Presented) The pointing device of claim 40, wherein the position underneath the first sensor is substantially coincident to the position underneath the second sensor.

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46. (Previously Presented) The pointing device of claim 40, wherein each gradient is a color gradient such that the plurality of positions uniquely vary in intensity level of color.

47. (Previously Presented) The pointing device of claim 46, wherein the first gradient is a color gradient of a first color and the second gradient is a color gradient of a second color.

48. (Previously Presented) The pointing device of claim 46, wherein the first sensor includes a color filter matching the first gradient and the second sensor includes a color filter matching the second gradient.

49. (Previously Presented) The pointing device of claim 40, wherein each gradient is a gray-scale gradient such that the plurality of positions uniquely vary in shades of gray.

50. (Previously Presented) The pointing device of claim 40, wherein the pointing device is a joystick.

51. (Previously Presented) A pointing device comprising:  
a housing;

a first sensor disposed within the housing and positionable over a first surface, the first surface having a plurality of uniquely coded positions arranged in a first gradient, the first gradient substantially covering the surface, the first sensor to detect the uniquely coded position underneath the first sensor;

a second sensor disposed within the housing and positionable over a second surface, the surface having a plurality of uniquely coded positions arranged in a second gradient, the second gradient substantially covering the second surface, the second sensor to detect the uniquely coded position underneath the second sensor: and

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whereby the position detected by the first sensor and the position detected by the second sensor relates to a unique position of the device and information relative to such position is communicated.

52. (New) The computerized system of claim 30 wherein the mouse pointing device comprises:

a first sensor positioned under the bottom surface of the dome to detect the intensity level of the first color of the position above the first sensor; and

a second sensor positioned over the bottom surface of the dome to detect the intensity level of the second color of the position above the second sensor.

53. (New) The mouse pointing device of claim 31 wherein the mechanism includes a first sensor positioned under the bottom surface of the dome to detect the intensity level of the first color of the position above the first sensor; and

a second sensor positioned over the bottom surface of the dome to detect the intensity level of the second color of the position above the second sensor.